

CLAIMS

1. An active matrix display device comprising first and second substrates (10, 12), electro-optical material (14) disposed between the first and second substrates, an array of display pixels (8) comprising picture element electrodes (16) and associated switches (22) carried together with sets of address lines (18, 20) on the first substrate (10), and a common electrode (26) carried on the second substrate (12), each picture element electrode together with an overlying portion of the common electrode and the electro-optical material therebetween defining a pixel, drive means (40, 42, 80, 90) connected to the sets of address conductors for applying drive signals to the array of pixels, the drive means comprising a drive circuit (40, 80) which is carried on the first substrate (10) and includes conductor lines (95, 96), the common electrode (26) on the second substrate (12) being connected electrically (92) to at least one conductor line on the first substrate that provides a drive voltage for the common electrode, and the common electrode (26) on the second substrate being utilised to provide electrical connection between the one conductor line (96) and at least one other circuit element (37) carried on the first substrate.

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2. A device according to Claim 1, wherein the drive circuit comprises at least one integrated circuit (80, 90) mounted on the first substrate.

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3. A device according to Claim 1, wherein the drive circuit comprises thin film circuit elements integrated on the first substrate.

4. A device according to any one of Claims 1 to 3, wherein the common electrode (26) is connected to the at least one other circuit element (37) via at least one connection element (100) extending between the first and second substrates adjacent an edge of the second substrate.

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5 5. A device according to any one of Claims 1 to 4, wherein the display pixels include storage capacitors (35) which are connected at their one side to a capacitor connection line (36, 37) carried on the first substrate (10) and wherein the common electrode is utilised to provide electrical connection between the one conductor line (96) and the capacitor connection line.

10 6. A device according to Claim 5, wherein the capacitor connection line (37) extends on the first substrate (10) adjacent one edge of the second substrate and connects together at one side of the array a plurality of capacitor connection line row portions (36), each row portion being connected to the storage capacitors (35) of a respective row of pixels (8), and wherein the common electrode is connected electrically with the capacitor connection line at spaced locations along that edge of the second substrate.

15 7. A device according to Claim 6, wherein the capacitor connection line (37) also extends on the first substrate (10) adjacent an opposing edge of the second substrate and connects together the plurality of capacitor connection row portions (36) at the opposing side of the array, and wherein the common electrode is connected with the capacitor connection line at spaced locations along the opposing edge of the second substrate.

25 8. A device according to Claim 6 or 7, wherein the common electrode is connected to the capacitor connection line (37) via bridging connections (100) extending between the first and second substrates and arranged along a substantial part of the length of the edge of the second substrate.

30 9. A device according to Claim 8, wherein the bridging connections comprise conductive material disposed between the two substrates adjacent the edge of the second substrate.

10. A device according to any one of the preceding claims, wherein the common electrode is connected to the at least one conductive line (96) on the first substrate via at least one bridging connection comprising conductive material disposed between the two substrates adjacent an edge of the second substrate.

11. A device according to Claim 10, wherein the common electrode is connected to the at least one conductive line via a plurality of bridging connections arranged adjacent corners of the second substrate.

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12. A device according to any one of the preceding claims, wherein in the second substrate carries a metallic black mask layer (31) adjacent to, and in electrical contact with, the common electrode (26).

13. A device according to any one of the preceding claims, wherein the electro-optical material comprises liquid crystal material.

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